

WHAT IS CLAIMED IS:

1. A system for improving the accuracy of preprogrammed surgery on a body having an inside portion that is in need of said surgery and an outside portion that is moveable during said surgery, comprising:

a plurality of markers, that are adapted to emit a corresponding plurality of signals, and that are adapted to be disposed on said moveable outside portion of said body proximate to said inside portion in need of said surgery;

wherein said markers, respectively, comprise a disposable support element, adapted to be attached to an outside portion of said body, and a signal emitter operatively associated with said support element;

means for causing said emitters to respectively emit signals under conditions sufficient to differentiate which emitter is sending each of said signals, respectively;

wherein emitted signals are adapted to enable tracking the movements of said movable outside portion of said body;

means for tracking the movement of said outside portion of said body as a function of said emissions;

means to identify and map said inside portion of said body that is intended to be subjected to surgery;

means to preprogram a treatment path adapted to be followed by treatment means;

means to integrate said tracked movements with said preprogrammed cutting path to form a modified cutting path; and

means to cause said treatment means to treat said inside portion of said body along said modified treatment path while substantially preventing said treatment means from departing from said modified treatment path to any substantial extent.

2. A system as claimed in claim 1 wherein said treatment means comprises high energy radiation sufficient to render said inside portion of said body necrotic.

3: A system as claimed in claim 1 wherein said treatment means is adapted to be operated without benefit of a surgeon.

4. A system as claimed in claim 1 wherein said emitters comprise a plurality of LEDs.

5. A system as claimed in claim 4 wherein said LEDs are disposed on a disposable support that is substantially unaffected by bodily excretions.

6. A system as claimed in claim 4 wherein said LEDs are disposed remote from said body and further comprising at least one fiber optic cable having an end that is operatively associated with each of said LEDs at a location remote from said body and having another end that is adapted to be substantially fixedly disposed on said moveable outside portion of said body proximate to said inside portion of said body in need of said treatment.

7. A system as claimed in claim 4 wherein said LED emissions are at least one selected from the group consisting of emissions having wavelengths in the visible red region and emissions having wavelengths in the infra red region

8. A system as claimed in claim 7 wherein said emissions have wavelengths that are in the infrared region and wherein said optical fibers comprise glass.

9. A system as claimed in claim 7 wherein said emissions comprise visible wavelengths and wherein said optical fibers comprise plastic material.

10. A system as claimed in claim 1 further comprising receiver means disposed remote from said body and positioned to be adapted to receive signals from said emitters, respectively.

11. A system as claimed in claim 1 wherein said receiver means comprises an array of cameras.

12. A system as claimed in claim 11 wherein said array comprises a plurality of cameras.

13. A system as claimed in claim 7 wherein said emitters are in line of sight with said receiver means so that said signals emitted from said emitters are adapted to be received by said receiver.

14. A system as claimed in claim 7 wherein said LED's are and said receiver are each disposed at an angle of about 45° with respect to the place where said body will be placed for said resection, or rendering necrotic operation.

15. A system as claimed in claim 1 wherein said emitters are operatively associated with wedge shaped members and wherein the combination of said emitters and said wedge shaped members, respectively, are adapted to dispose said emitters in line of sight with said receiver means.

16. A system as claimed in claim 10 wherein said wedge shaped members have adjustable angles.

17. A system as claimed in claim 1 wherein said surgical means comprises high energy ultra sound radiation.

18. A system as claimed in claim 12 wherein said inside portion of said body comprises at least one stone in need of removal and further comprising said ultra sound radiation being of sufficient strength to be adapted to break up said stone into pieces that are small enough to be passed.

19. A system as claimed in claim 1 wherein said inside portion of said body comprises a resectable feature, or feature to be rendered necrotic and further comprising said surgical means comprising high energy radiation that is adapted to render said feature necrotic.

20. A system as claimed in claim 19 wherein said inside feature is moveable in proportion to the movement of said outside portion of said body; and said system further comprising:

means to control the frequency of emissions from said emitters at a rate such that changes in the location of said moving outside surface are reflected in the determined positions and orientations of said markers as a function of time;

means to at least frequently reintegrate the determined position and orientation of said outside portion of said body with the preprogrammed surgical path to form a modified surgical path such that said modified surgical path substantially accurately represents the changing real boundaries of said feature in need of resection, or rendering necrotic.